



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,008	07/21/2005	Stefan Huber	112740-1085	2577
29177 7590 11/24/2008 BELF., BOYD & LLOYD, LLP P.O. BOX 1135 CHICAGO, IL 60690				
EXAMINER				
KARACSONY, ROBERT				
ART UNIT		PAPER NUMBER		
2821				
MAIL DATE		DELIVERY MODE		
11/24/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/543,008

Applicant(s)

HUBER ET AL.

Examiner

ROBERT KARACSONY

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 22, 2008 has been entered.

Claim Objections

2. Claim 22 is objected to because of the following informalities: The limitation "the plane" in line 3 of the claim lacks proper antecedent basis. For examination purposes, the Examiner interprets the limitation as --a plane--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 12 and 15-21 rejected under 35 U.S.C. 102(e) as being anticipated by *Tan et al.* (US 6,680,705, hereinafter *Tan*).

Claim 12: *Tan* teaches a multiband antenna array for a mobile radio equipment, comprising:

a planar patch antenna (201) having a plurality of resonances (col. 2/lines 50-52) and is further coupled to a ground connection (205) and to a high-frequency interface (203); and

a plurality of parasitic transmitters (801,601), wherein said transmitters are located marginal to and outside of the planar patch antenna (fig. 8) and are each embodied so as to be free of a high-frequency interface (fig. 8), wherein the parasitic transmitters are arranged as line-type conductor structures (fig. 8, Applicant does not disclose the meaning of “line-type conductor” in the Specification and the term “line-type conductor” is not well known in the art, therefore, examiner interprets “line-type conductor” as a conductor long in proportion to its breadth), whereas the structures of the planar patch antenna are arranged as sheet-type conductor structures (fig. 8).

Claim 15: *Tan* teaches at least one parasitic transmitter is free of connection to ground (fig. 8).

Claim 16: *Tan* teaches the plurality of parasitic transmitters are arranged on opposite sides of the planar patch antenna (fig. 8).

Claim 17: *Tan* teaches the plurality of parasitic transmitters are located on adjacent sides of the planar patch antenna. (fig. 8).

Claims 18-20: *Tan* teaches at least one parasitic transmitter extends at least partially over two, three and four adjacent sides of the planar patch antenna (fig. 8 illustrates ‘801’ extending over a slit comprising 7 sides of the planar patch antenna).

Claim 21: the planar patch antenna and the parasitic transmitters are arranged in a plane (since both elements are planar they must inherently lie in a plane).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 13, 14 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Tan* in view of *Pederson, Gert Frolund* (EP 1067627, hereinafter *Pederson*).

Claims 13 and 14: *Tan* teaches all of the limitations of claim 1, as discussed above. *Tan* fails to teach the plurality of parasitic transmitters are provided with a shared connection to ground. However, it is well known to one having ordinary skill in the art that parasitic radiators can be coupled to ground or not coupled to ground. *Pederson* teaches sharing the ground connection to the parasitic radiators (fig. 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have connected the parasitic elements of *Tan* to ground as taught by *Pederson*, since it is well known in the art to ground parasitic elements.

Claim 22: The modified invention of *Tan*, as discussed above for claims 13 and 14, teaches wherein at least one parasitic transmitter has a spatial extension (60, fig. 2), emerging perpendicularly out of a plane of the planar patch antenna.

Response to Arguments

7. Applicant's arguments filed July 23, 2008 have been fully considered but they are not persuasive.

8. Regarding the arguments that *Tan* fails to teach a plurality of transmitters located marginal to and outside of the planar patch antenna, see page 4, bullet No. 1 of the Remarks, Examiner respectfully disagrees with Applicant. Examiner interprets marginal to mean "situated on the border or edge", therefore, since the radiating element '201' of *Tan* is three dimensional, the borders of the radiating element '201' is three dimensional. Since the parasitic elements '601,801' of *Tan* are adjacent to the radiating element '201' they must inherently be "marginal to" the radiating element. Secondly, the limitation "outside of" does not require the parasitic transmitters to be positioned as shown in fig. 1 of the instant application. Instead, any parasitic element located adjacent a radiator can be interpreted to be located "outside of". Since the radiating element '201' of *Tan* is three dimensional, any parasitic element located adjacent to the radiating element is interpreted to be located "outside of".
9. Regarding the arguments that *Tan* fails to teach the parasitic transmitters are "line-type" conductors, see page 5, bullet No. 2 of the Remarks, the Examiner respectfully disagrees. The term "line-type" is not defined in the Specification and the Examiner is allowed interpret the claims with a broad reasonable interpretation, therefore, the Examiner interprets any wire or conductor, wherein its length is longer than its width, as a "line-type" conductor structure.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT KARACSONY whose telephone number is (571)270-1268. The examiner can normally be reached on M-F 7:30 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on 571-272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. K./
Examiner, Art Unit 2821

/Hoang V Nguyen/
Primary Examiner, Art Unit 2821